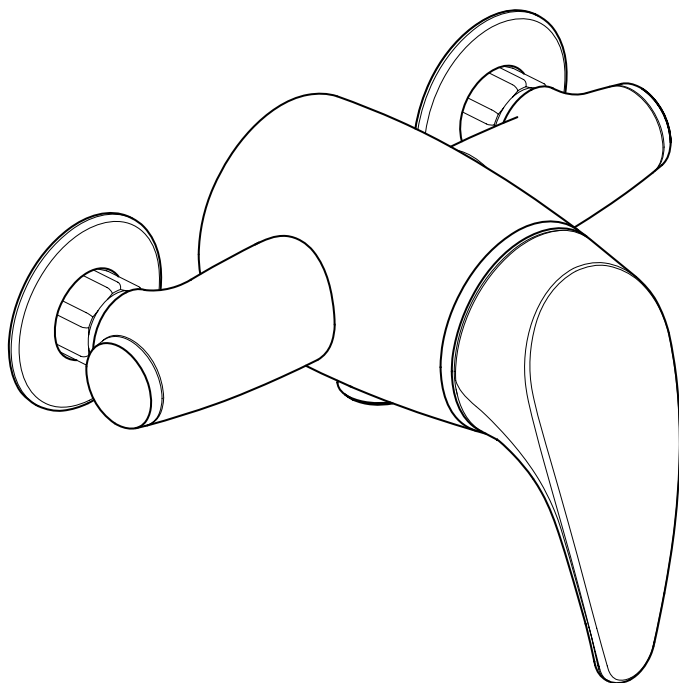


KOHLER®



KOHLER ODELA

THERMOSTATIC MIXER

Installation and User Guide

These instructions must be left with the user.

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If you experience any difficulty with the installation or operation of your new Thermostatic Mixer, please refer to '**Fault Diagnosis**', before contacting Kohler Mira Ltd. Our telephone and fax numbers can be found on the back cover of this guide.

INTRODUCTION

Thank you for purchasing a quality Kohler product. To enjoy the full potential of your new product, please take time to read this guide thoroughly, having done so, keep it handy for future reference.

The Kohler Odela Thermostatic Mixer is a Thermostatic Shower Control with a Single Sequential Knob for on/off and temperature control. It has been designed to compliment the Kohler Odela Brassware range.

The Thermostatic Mixer incorporates a Wax Capsule Temperature Sensing Unit. This provides an almost immediate response to changes in pressures or temperature of the incoming water supplies to maintain the selected temperature. An adjustable Maximum Temperature Stop is provided which limits the temperature to the desired level. Inlet Filters are fitted to protect the Thermostatic Cartridge.

The Kohler Odela Thermostatic Mixer is an exposed Shower Control for connection to wall mounted or rear entry pipework at centres of 153 mm.

This product has been certified as a Type 2 valve under the BUILDCERT TMV2 scheme. This product also complies with the Water Supply (water fittings) Regulations 1999.

Patents and Design Registration

Design Registration:	000555768-0003		
Patents:	GB:	2 291 693 2 392 225, 2 421 297	
	Germany:	695 13 455.8	
	France:	0 694 721 (E)	
Patent Applications:	Euro:	1 672 257, 03254070.0	
	USA:	2006-0124758-A1, 10/607 025	

SAFETY : WARNINGS

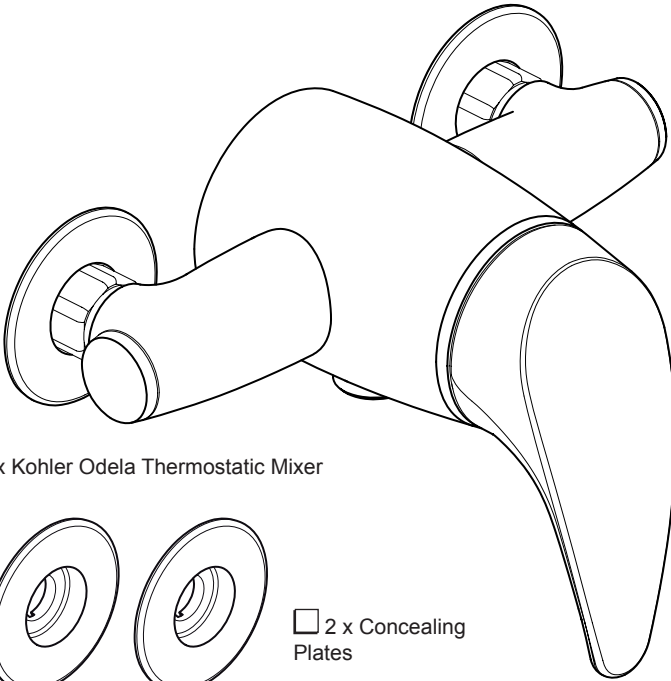
This Kohler Odela Thermostatic Mixer is precision engineered and should give continued safe and controlled performance, provided:

1. It is installed, commissioned, operated and maintained in accordance with manufacturers recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

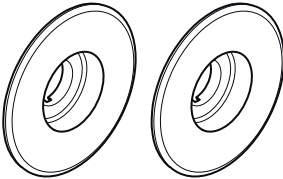
PACK CONTENTS



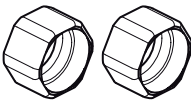
Tick the appropriate boxes to familiarize yourself with the part names and to confirm that the parts are included.



☐ 1 x Kohler Odela Thermostatic Mixer



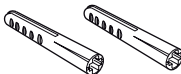
☐ 2 x Concealing Plates



☐ 2 x Compression Nuts



☐ 2 x Olives



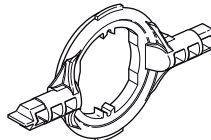
☐ 2 x Wall Plugs



☐ 2 x No 8 x 1 1/4" Securing Screws



☐ 1 x 2.5 mm Hexagon Key



☐ 1 x 'O' Key

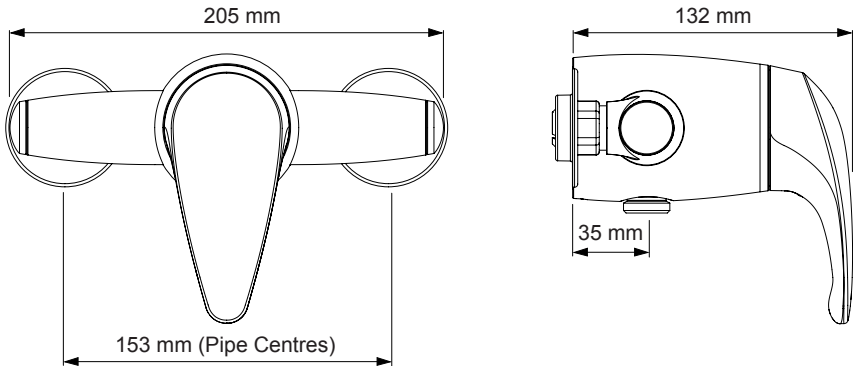


☐ 1 x 12 L/Min Flow Regulator

Documentation

☐ 1 x Installation Template

DIMENSIONS



SPECIFICATIONS

For Type 2 Valves, the supply conditions specified in section: '**Type 2 Valves - Application**' take precedence over the operating parameters which follow.

Pressures

Maximum Static Pressure: **10 Bar**.

Minimum Maintained Pressure (Gas Water Heater): **1.0 Bar**.

(for optimum performance supplies should be nominally equal).

Minimum Maintained Pressure (Gravity System): **0.1 Bar**.

(0.1 bar = 1 Metre head from base of cold tank to the outlet of the shower handset).

Maximum Maintained Pressure: **5 Bar**.

Temperatures

Factory Pre-set (Blend) Shower: **43°C**.

Optimum Thermostatic Control Range: **35°C - 45°C**.

(Achieved with supplies of 15°C cold, 65°C hot and nominally equal pressures).

Maximum Hot Supply: **85°C**.

Recommended Hot Supply: **60°C - 65°C**.

Minimum Differential between Hot Supply and Outlet Temperature: **10°C**.

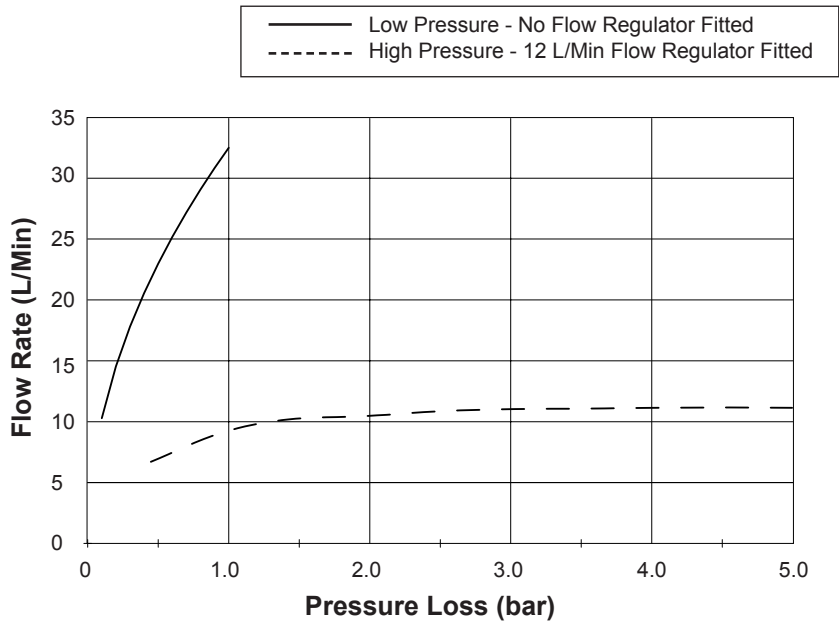
Cold Water Range: **5°C - 25°C**.

Thermostatic Shut-down

Thermostat will shut off Hot Supply Within 2 Seconds if Cold Supply Fails.
(Achieved only if the hot supply temperature is greater than 10°C above the set blend temperature).

Flow Rates

Typical Flow Rates (Valve Only)



Connections

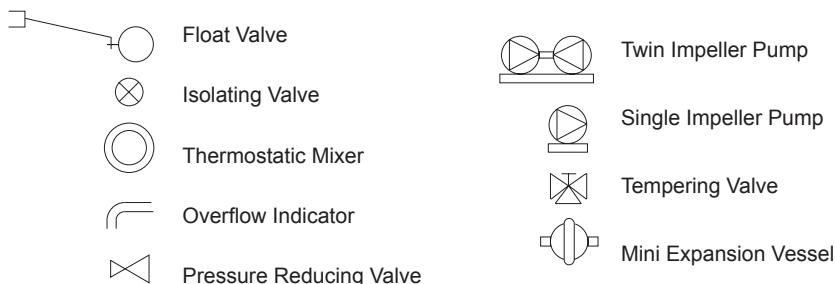
Standard connections are: **Hot-Left, Cold-Right, Bottom-Outlet**. If reversed inlets are required refer to section: **‘Reversed Inlet Supplies’**.

Inlets: 15 mm Compression.

Outlet: ½” BSP.

INSTALLATION REQUIREMENTS

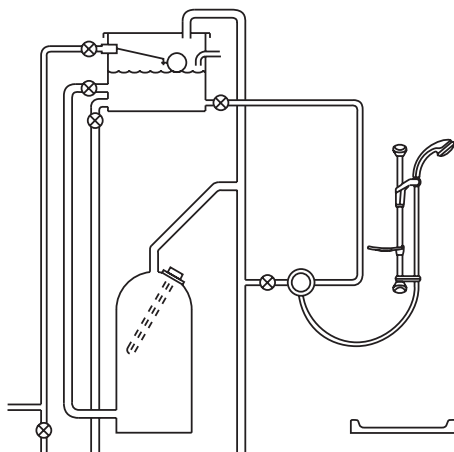
Key to Symbols



The Kohler Odela Thermostatic Mixer is compatible with the following systems:

Gravity fed system

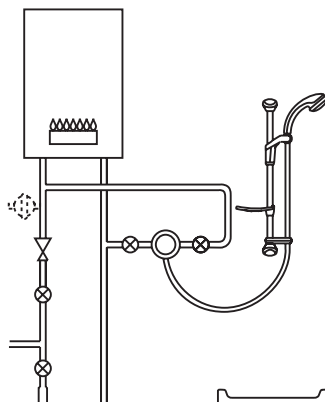
The Thermostatic Mixer **MUST** be fed from a cold water cistern and hot water cylinder providing nominally equal pressure.



Gas heated system

The Thermostatic Mixer **MUST** be installed with a gas water heater or combination boiler of a fully modulating design.

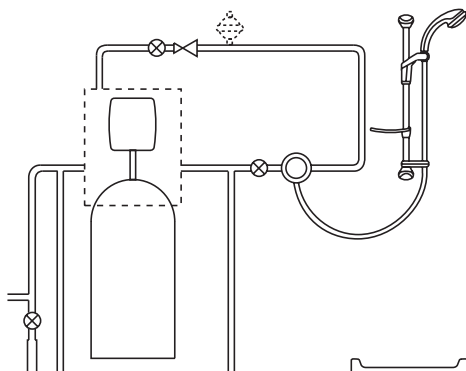
Note! We recommend the use of a 12 L/Min Outlet Flow Regulator (supplied). However, it is possible following the installation of the Flow Regulator that the flow rate is reduced too much for the boiler to ignite. If this is the case remove the flow regulator.



Unvented mains pressure system

The Thermostatic Mixer can be installed with a unvented, stored hot water cylinder.

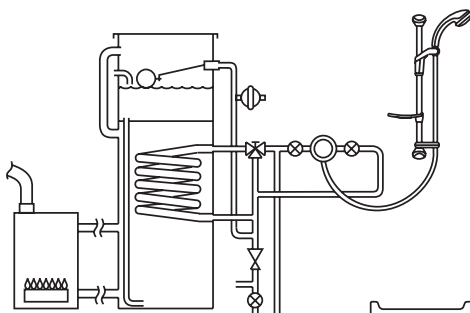
Note! We recommend the use of a 12 L/Min Outlet Flow Regulator (supplied).



Mains pressurised instantaneous hot water system (thermal store)

The Thermostatic Mixer can be installed with systems of this type with balanced pressures.

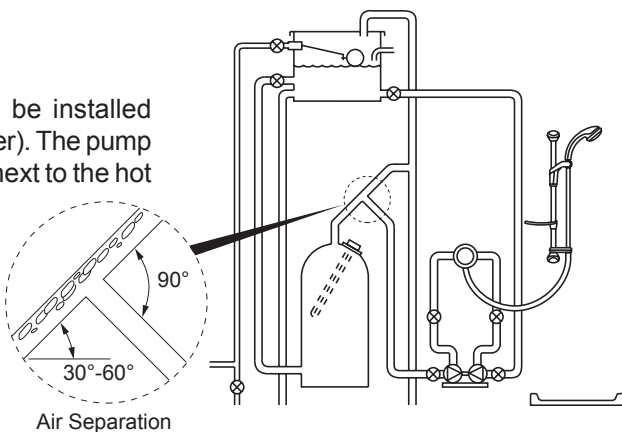
Note! We recommend the use of a 12 L/Min Outlet Flow Regulator (supplied).



Pumped system

The Thermostatic Mixer can be installed with an inlet pump (twin impeller). The pump must be installed on the floor next to the hot water cylinder.

Note! We recommend the use of a 12 L/Min Outlet Flow Regulator (supplied).



INSTALLATION

General

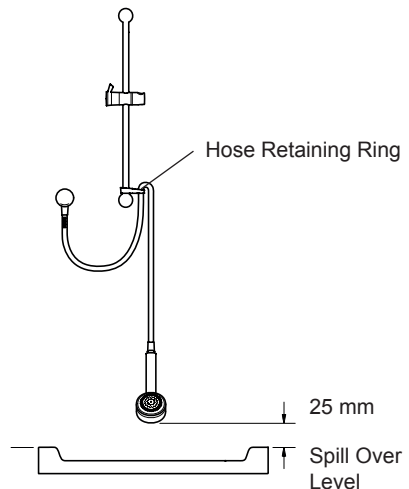
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

The installation must comply with the “Water Supply Regulations 1999 (Water Fittings)” or any particular regulations and practices, specified by the local water company or water undertakers.

Note! Make sure that all site requirements correspond to the information given in section: ‘**Specifications**’. For Type 2 Valves see also supply conditions in section: ‘**Type 2 Valves**’.

1. The Thermostatic Mixer must not be installed in an area where it may freeze.
2. For stud partitions alternative fixings may be required.
3. Isolating valves must be installed close to the Thermostatic Mixer for ease of maintenance.
4. Pipework must be rigidly supported and avoid any strain on the connections.
5. Pipework dead-legs should be kept to a minimum.
6. Supply pipework layout should be arranged to minimise the effect of other outlet usage upon the dynamic pressures at the Thermostatic Mixer inlets.
7. Inlet and outlet threaded joint connections should be made with PTFE tape or liquid sealant. Do not use oil-based, non-setting joint compounds.
8. To eliminate pipe debris it is essential that supply pipes are thoroughly flushed through before final connection.
9. Decide on a suitable position for the Thermostatic Mixer. The position of the Thermostatic Mixer and the Shower Fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/bath and the handset. This is to prevent back-siphonage. For further information on the installation of your shower fittings, refer to the Fittings Installation and User Guide.

Note! Only use shower fittings recommended by the manufacturer or supplier.



1. Rear Entry Supplies (rising or falling concealed pipework)

- 1.1** Use the Installation Template to mark the positions of the holes for the Backplate and the pipe centres.

Note! Allow a minimum of 150 mm either side of the Thermostatic Mixer, to allow access to the hot and cold Inlet Filters for servicing.

- 1.2** For solid walls drill the Backplate holes with a 6 mm diameter drill and insert the Wall Plugs (supplied). For other types of wall structure alternative fixing may be required (not supplied).

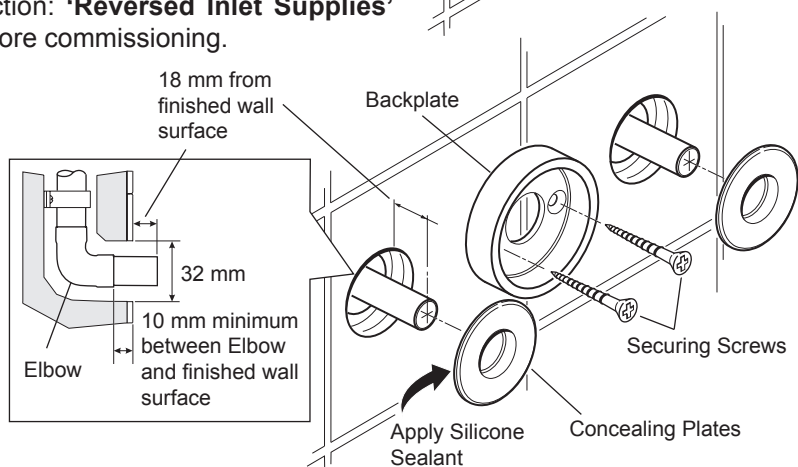
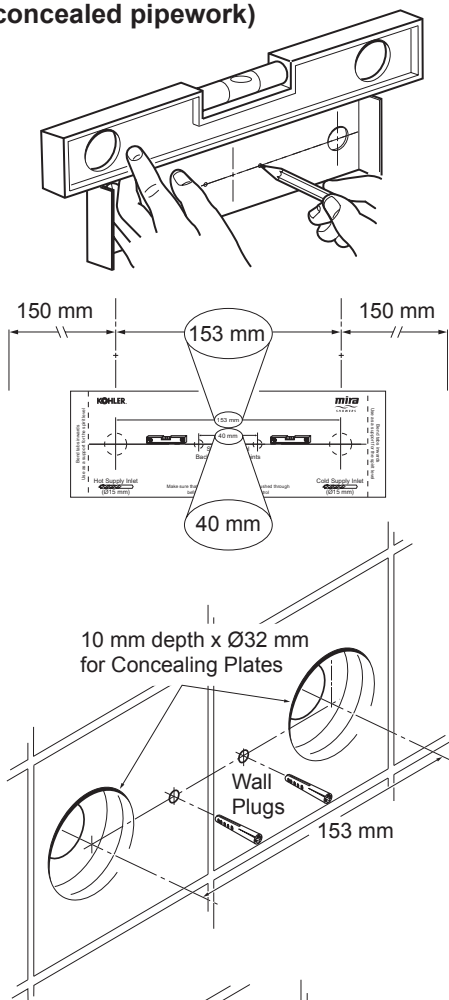
- 1.3** Drill the supply pipe holes at 153 mm centres.

- 1.4** Recess the wall to allow for the Concealing Plates, 32 mm diameter x 10 mm deep.

Note! Depth must be sufficient to prevent the Concealing Plates fouling on the plumbing Elbows.

- 1.5** Fit the supply pipework (Hot - Left, Cold - Right). The pipework must project 18 mm from the finished wall surface at 153 mm centres (use the Installation Template as a guide).

Note! If the connections are reversed, complete the installation then refer to section: '**Reversed Inlet Supplies**' before commissioning.



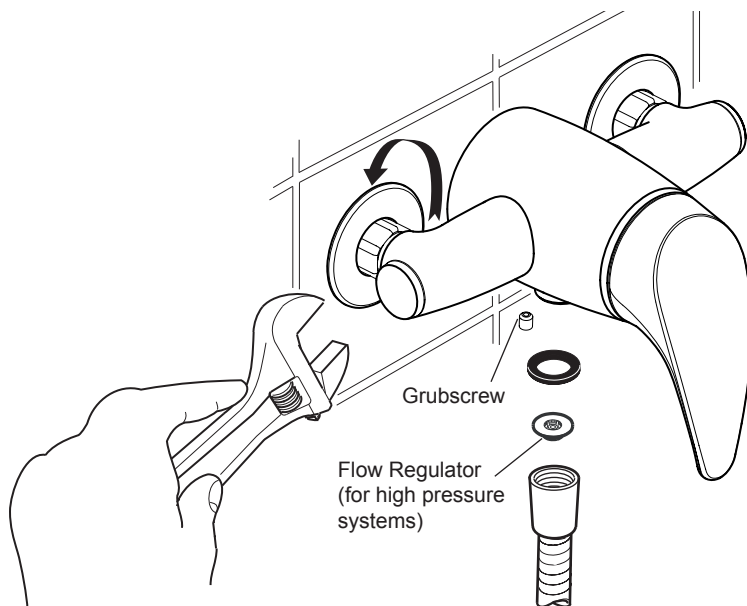
- 1.6 Loosen the Grubscrew with the 2.5 mm Hexagon Key (supplied) and remove the Backplate from the Thermostatic Mixer.
- 1.7 Secure the Backplate to the wall using the Securing Screws (supplied).
- 1.8 Fit the Concealing Plates.

Note! Apply silicone sealant to the back face of the flange.

Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the Thermostatic Mixer. Failure to do so may result in product malfunction.

- 1.9 Fit the Compression Nuts and Olives onto the pipework.
- 1.10 Align the Thermostatic Mixer with the pipework and fit onto the Backplate.
- 1.11 Tighten the Compression Nuts onto the Thermostatic Mixer with a suitable Spanner.

Caution! Take care not to damage the chrome surfaces.



- 1.12 Tighten the Grubscrew with a 2.5 mm Hexagon Key (supplied) to secure the Thermostatic Mixer to the Backplate.
 - 1.13 Fit the Shower Fittings, refer to your Fittings Installation and User Guide for instructions.
- Note!** For high pressure systems, a 12 litre/minute flow regulator (supplied) can be fitted under the hose washer.
- 1.14 Turn on the hot and cold water supplies and check for leaks.
 - 1.15 The Maximum Temperature of the Thermostatic Mixer is factory set to approximately 43°C. If adjustment is required, refer to section: '**Commissioning**'.

2. Rising or Falling Supplies

2.1 Loosen the Grubscrew on each Elbow using the 2.5 mm Hexagon Key (supplied) and rotate the Elbow 90° as required. Retighten the Grubscrews.

2.2 Use the Installation Template to mark the positions of the fixing holes for the Backplate.

Note! Allow a minimum of 150 mm either side of the Thermostatic Mixer, to allow access to the hot and cold Inlet Filters for servicing.

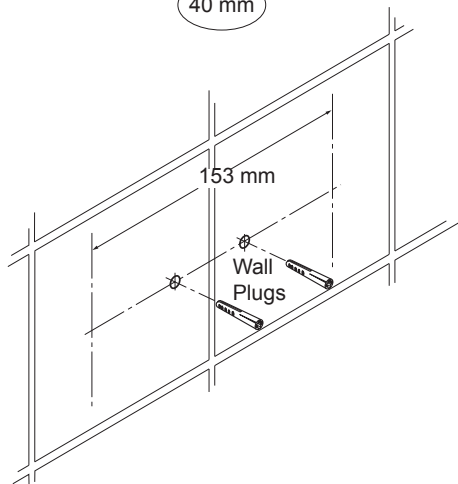
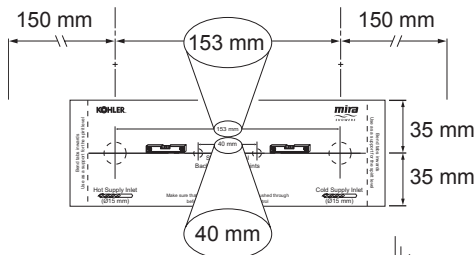
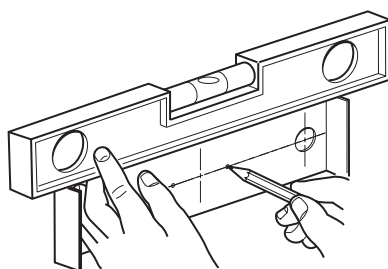
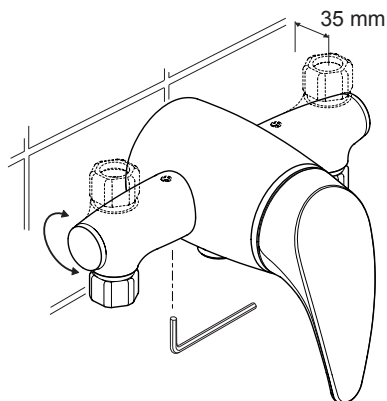
2.3 For solid walls drill the Backplate holes with a 6 mm diameter drill and insert the Wall Plugs (supplied). For other types of wall structure alternative fixing may be required (not supplied).

2.4 Fit the supply pipework, 35 mm from the finished wall surface to the centre of the pipes (Hot - Left, Cold - Right).

Note! Use the installation template to set the distance from the wall (35 mm centres / 153 mm apart).

Note! If the connections are reversed, complete the installation then refer to section: **'Reversed Inlet Supplies'** before commissioning.

2.5 Loosen the Grubscrew with the 2.5 mm Hexagon Key (supplied) and remove the Backplate from the Thermostatic Mixer.



- 2.6** Secure the Backplate to the wall using the Securing Screws (supplied).

Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the Thermostatic Mixer. Failure to do so may result in product malfunction.

- 2.7** Fit the Compression Nuts and Olives onto the pipework.

- 2.8** Align the Thermostatic Mixer with the pipework and fit onto the Backplate.

- 2.9** Tighten the Compression Nuts onto the Thermostatic Mixer with a suitable Spanner.

Caution! Take care not to damage the chrome surfaces.

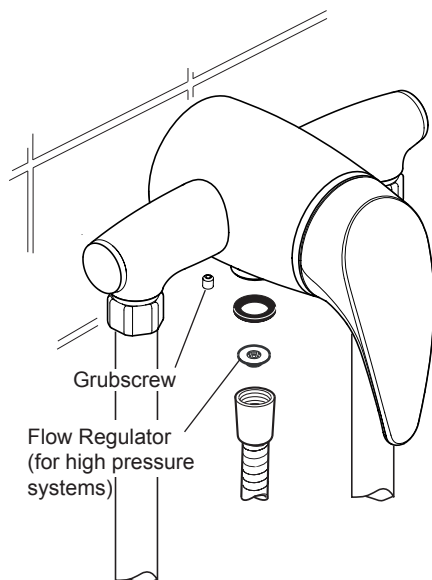
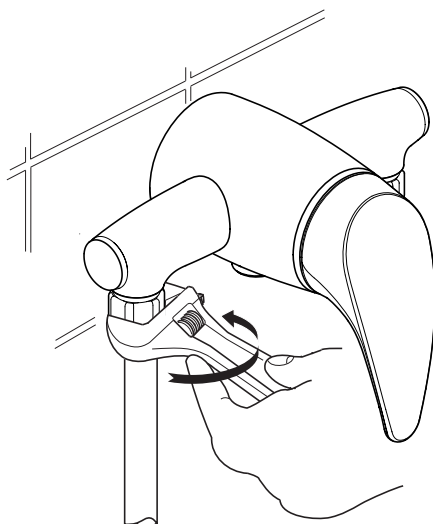
- 2.10** Tighten the Grubscrew to secure the Thermostatic Mixer to the Backplate.

- 2.11** Fit the Shower Fittings, refer to your Fittings Installation and User Guide for Instructions.

Note! For high pressure systems, a 12 litre/minute flow regulator (supplied) can be fitted under the hose washer.

- 2.12** Turn on the hot and cold water supplies and check for leaks.

- 2.13** The Maximum Temperature of the Thermostatic Mixer is factory set to approximately 43°C. If adjustment is required, refer to section: **‘Commissioning’**.



REVERSED INLET SUPPLIES

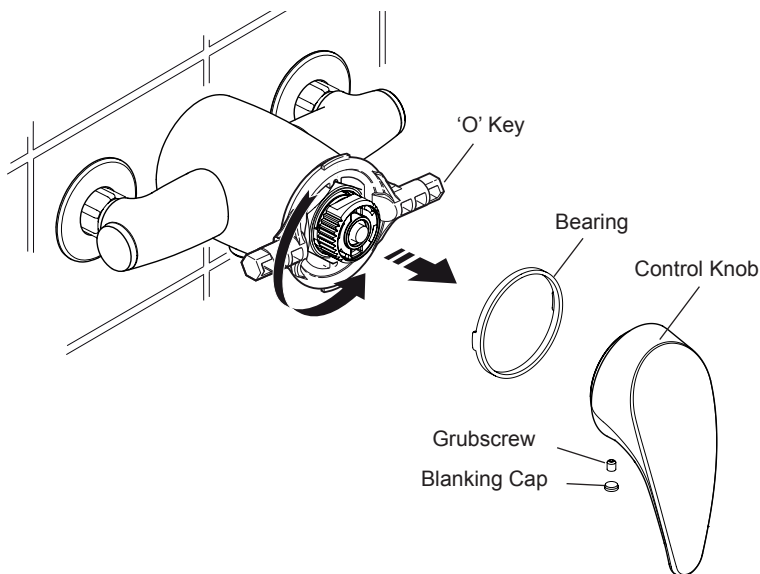
The Kohler Odela Thermostatic Mixer is supplied with inlet connections Hot-Left, Cold-Right and Bottom-Outlet as standard. If the hot and cold water supply pipes have been reversed during installation the following procedure must be performed.

1. Isolate the hot and cold water supplies.
2. Remove the Blanking Cap, loosen the Grubscrew and pull off the Control Knob.
3. Pull off the Bearing.
4. Fit the 'O' Key (supplied) onto the Cartridge Nut and turn anticlockwise. Unscrew fully and pull the Cartridge from the Body.
5. Rotate the Cartridge 180°.
6. Make sure that the two Cartridge Inlet Seals are fitted and carefully push into the Body, aligning the Cartridge Lugs into the Body Slots.

Note! Make sure that the Cartridge Lug stamped 'H' is aligned with the hot inlet supply.

Important! Take care when fitting the Cartridge as damage to the Cartridge Inlet Seals may result in dripping from the Shower Head.

7. Tighten the Nut by turning the 'O' Key clockwise.
8. Refit the Bearing.
9. Refit the Control Knob, tighten the Grubscrew and refit the Blanking Cap.
10. Turn on the hot and cold water supplies and check for leaks.
11. The Maximum Temperature of the Thermostatic Mixer is factory set to approximately 43°C. If adjustment is required, refer to section: '**Commissioning**'.



COMMISSIONING

Maximum Temperature Setting

The Maximum Temperature of the Thermostatic Mixer is factory set to approximately 43°C. If adjustment is required, set the maximum temperature as follows:

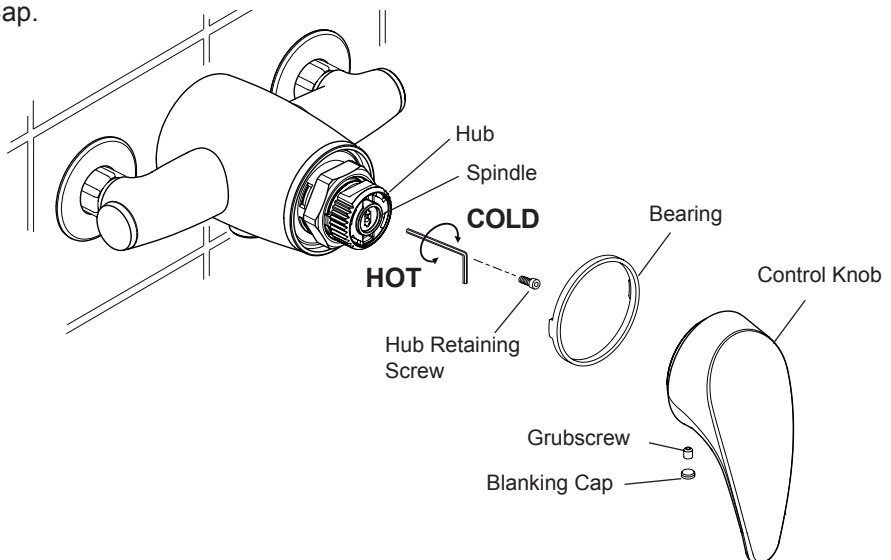
Note! Make sure that the hot water temperature is at least 10°C above the required maximum showering temperature.

For Type 2 installations the maximum blend temperature is determined by the application, refer to section: '**Type 2 Valves - Application**'.

1. Remove the Blanking Cap and loosen the Control Knob Grubscrew.
 2. Turn on the Thermostatic Mixer to the maximum temperature (i.e. fully anticlockwise) and allow the temperature to stabilise.
 3. Pull off the Control Knob and Bearing.
 4. Unscrew the Hub Retaining Screw with a 2.5 mm Hexagon Key (supplied).
- Note!** Do not remove the Hub.
5. Insert the 2.5 mm Hexagon Key into the centre of the Spindle and engage with the recessed Temperature Adjusting Screw.
 6. Rotate the Hexagon Key until the required maximum temperature is obtained at the discharge point. Anticlockwise to increase the temperature, or clockwise to decrease the temperature ($\frac{1}{4}$ turn = 1°C).
 7. Once the desired maximum blend temperature has been achieved turn off the Thermostatic Mixer by rotating the Hub.

Note! Do not remove the Hub.

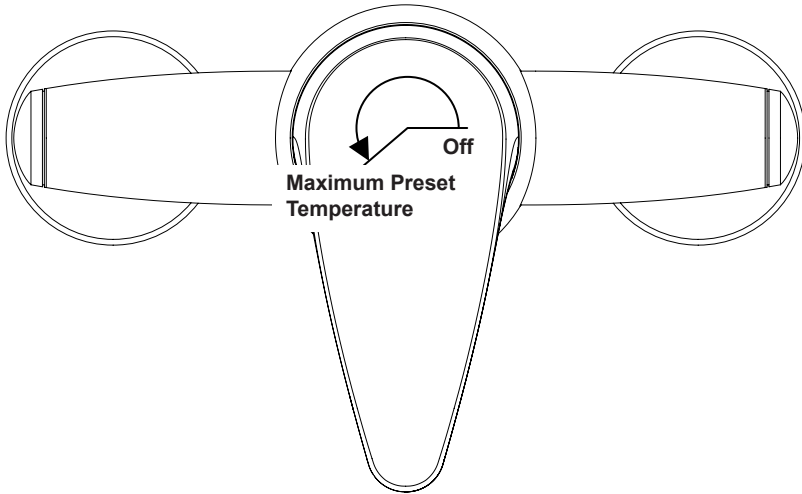
8. Refit the Hub Retaining Screw.
9. Refit the Control Knob and Bearing, tighten the Grubscrew and refit the Blanking Cap.



OPERATION

The Kohler Odela Thermostatic Mixer is a Thermostatic Shower Control with a Single Sequential Control Knob for on/off and temperature control.

The Control Knob operates anti-clockwise in the following sequence:



Off ➡ Cold ➡ Warm ➡ Maximum Preset Temperature

FAULT DIAGNOSIS

Symptom	Cause / Rectification
1. Only hot or cold water from the Thermostatic Mixer outlet.	<p>a. Inlets reversed (hot supply to cold supply). Refer to section: ‘Reversed Supplies’.</p> <p>b. No hot water reaching the Thermostatic Mixer.</p> <p>c. Check the Filters for any blockage.</p> <p>d. Installation conditions outside operating parameters: refer to sections: ‘Specifications’ and ‘Commissioning’.</p>
2. Fluctuating or reduced flow rate.	<p>a. Check the Showerhead, Hose and Filters for any blockage.</p> <p>b. Make sure the maintained inlet pressures are nominally balanced and sufficient, refer to section: ‘Specifications’.</p> <p>c. Make sure the inlet temperature differentials are sufficient, refer to section: ‘Specifications’.</p> <p>d. Flow Regulator fitted incorrectly.</p> <p>e. Airlock or partial blockage in pipework.</p>
3. No flow from the Thermostatic Mixer outlet.	<p>a. Check the Showerhead, Hose and Filters for any blockage.</p> <p>b. Hot or cold supply failure.</p>
4. Blend temperature drift.	<p>a. Refer to symptom 2. above.</p> <p>b. Significant supply temperature fluctuation.</p> <p>c. Significant supply pressure fluctuation.</p> <p>d. Faulty Thermostatic Cartridge, renew.</p>
5. Maximum blend temperature setting too hot or too cold.	<p>a. Indicates incorrect maximum temperature setting; refer to section: ‘Commissioning’.</p> <p>b. Refer to symptom 4. above.</p>
6. Water leaking from the Showerhead.	<p>a. Normal for a short period after shut off.</p> <p>b. Check that the pressures are not in excess of the specifications for product.</p> <p>c. Cartridge Inlet Seals damaged, renew.</p> <p>d. Renew the Thermostatic Cartridge.</p>
7. Flow rate too low or too high.	<p>a. (low) Insufficient supply pressures.</p> <p>b. (high) Supply pressure too high. Install Flow Reg.</p> <p>c. Refer to symptom 2. above.</p>

MAINTENANCE

General

This Product is precision engineered and should give continued safe and controlled performance, provided:

1. It is installed, commissioned, operated and maintained in accordance with manufacturers recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

The Kohler Odela Thermostatic Mixer is designed for the minimum of maintenance in normal use. If a malfunction occurs with the Thermostatic Cartridge then this will necessitate a complete cartridge replacement.

Note! The cartridge contains no internally serviceable parts.

Lubricants

Silicone-only based lubricants can be used to assist in refitting.

Caution! Oil based or other lubricant types, may cause rapid deterioration of seals.

Cleaning

Warning! Many household cleaners contain abrasive and chemical substances, and should not be used for cleaning plated or plastic fittings. These finishes should be cleaned using a mild washing up detergent or soap solution, rinsed and then wiped dry with a soft cloth.

In-service Tests

The principle means for determining the continuing satisfactory performance of the mixing valve is the in-service test.

Follow the procedure detailed in the flow diagram "In-service Test Procedure".

Frequency of In-service Tests

Commercial (non-domestic installations)

Check for correct blend setting every 6 months.

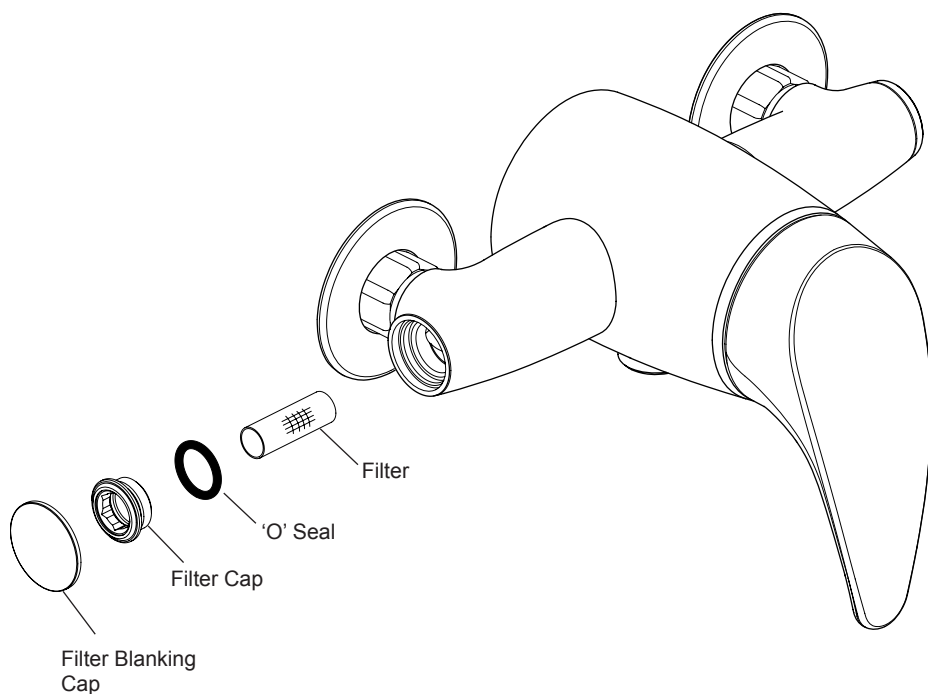
Follow the procedure detailed in the flow diagram "In-service Test Procedure", every 12 months.

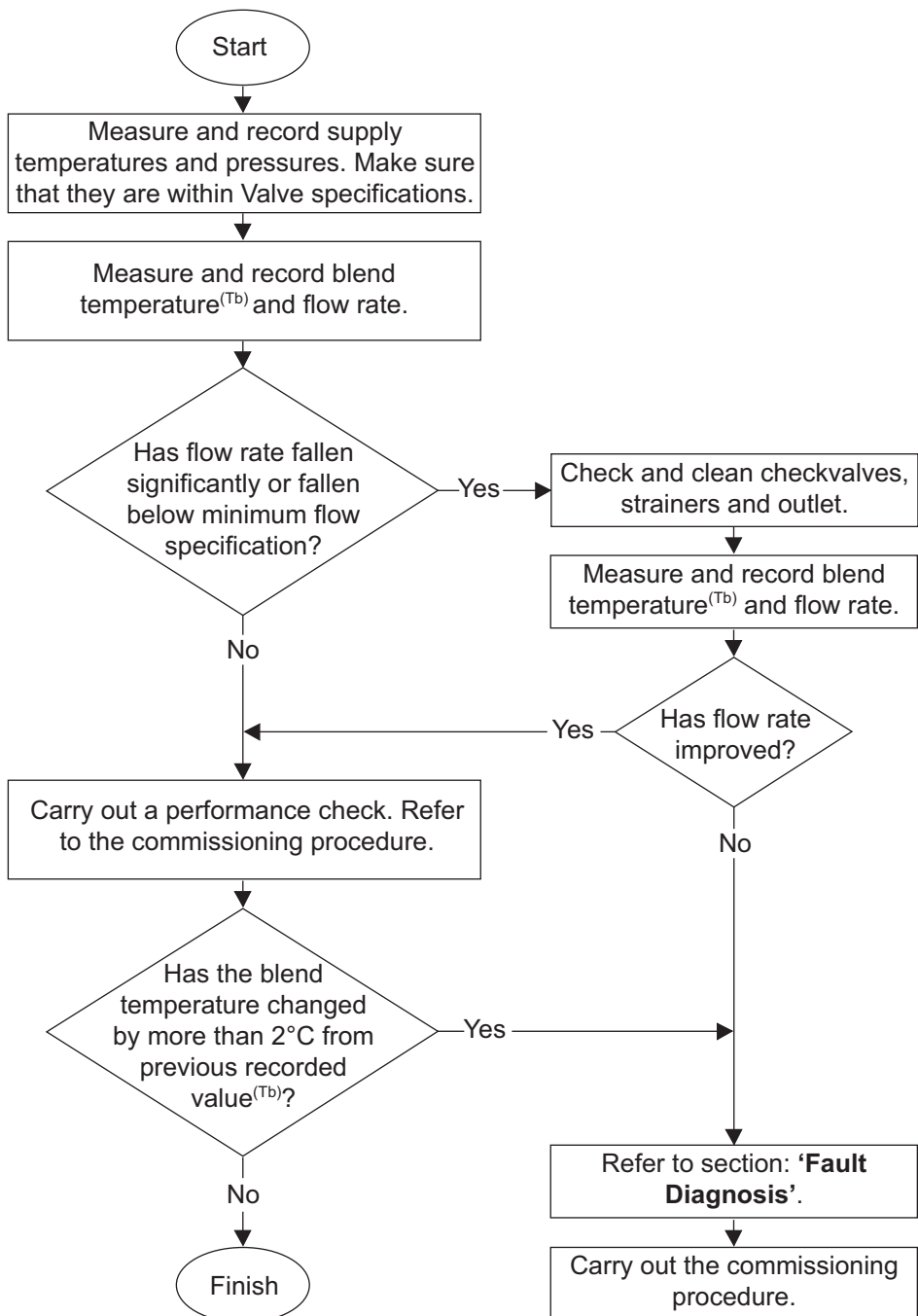
Inlet Filters

Important! The Inlet Filters should be checked and cleaned as necessary every 12 months.

Note! The Inlet Filters must not be removed except for cleaning. If the Thermostatic Mixer is operated without the Inlet Filters fitted the Warranty on the product will be void.

1. Isolate the hot and cold water supplies and operate the Control Knob to drain any residual water.
 2. Unscrew the Filter Blanking Caps then unscrew the Filter Caps with the 'O Key' (supplied) or a 12 mm hexagonal wrench and remove the Filters.
 3. Clean each Filter in turn under a jet of water to remove any lodged particles.
 4. Refit the Filters and tighten the Filter Caps.
- Note!** Make sure that the seal is fitted correctly and not damaged.
5. Refit the Filter Blanking Caps.
 6. Turn on the hot and cold water supplies and check for leaks.





Note! All measurements and results should be recorded in the Log Book.

Flow Diagram, In-service Test Procedure

TYPE 2 VALVES

Application

The approved designations for Type 2 Valves are as follows:

Model	Designation
Kohler Odela	LP-S, HP-S

The permitted application details are:

Designation	Operating Pressure Range	Application	Mixed Water Temperature [†] °C
LP-S	Low Pressure	Shower	41°C Maximum
HP-S	High Pressure	Shower	41°C Maximum

[†] Mixed water temperature at discharge point.

Important! For TMV2 installations the mixed water temperature at the discharge point should never exceed 46°C.

In order to achieve the safe water temperatures expected of a Type 2 Valve it is essential that the valve is used only for the applications covered by its approved designations, with the appropriate water supply pressures and temperatures, and it is commissioned, maintained and serviced in accordance with the recommendations contained in this guide (refer to the section '**Maintenance, In-Service Tests**' for in service test frequency that must be used as a minimum guide in Type 2 installations).

Supply Conditions

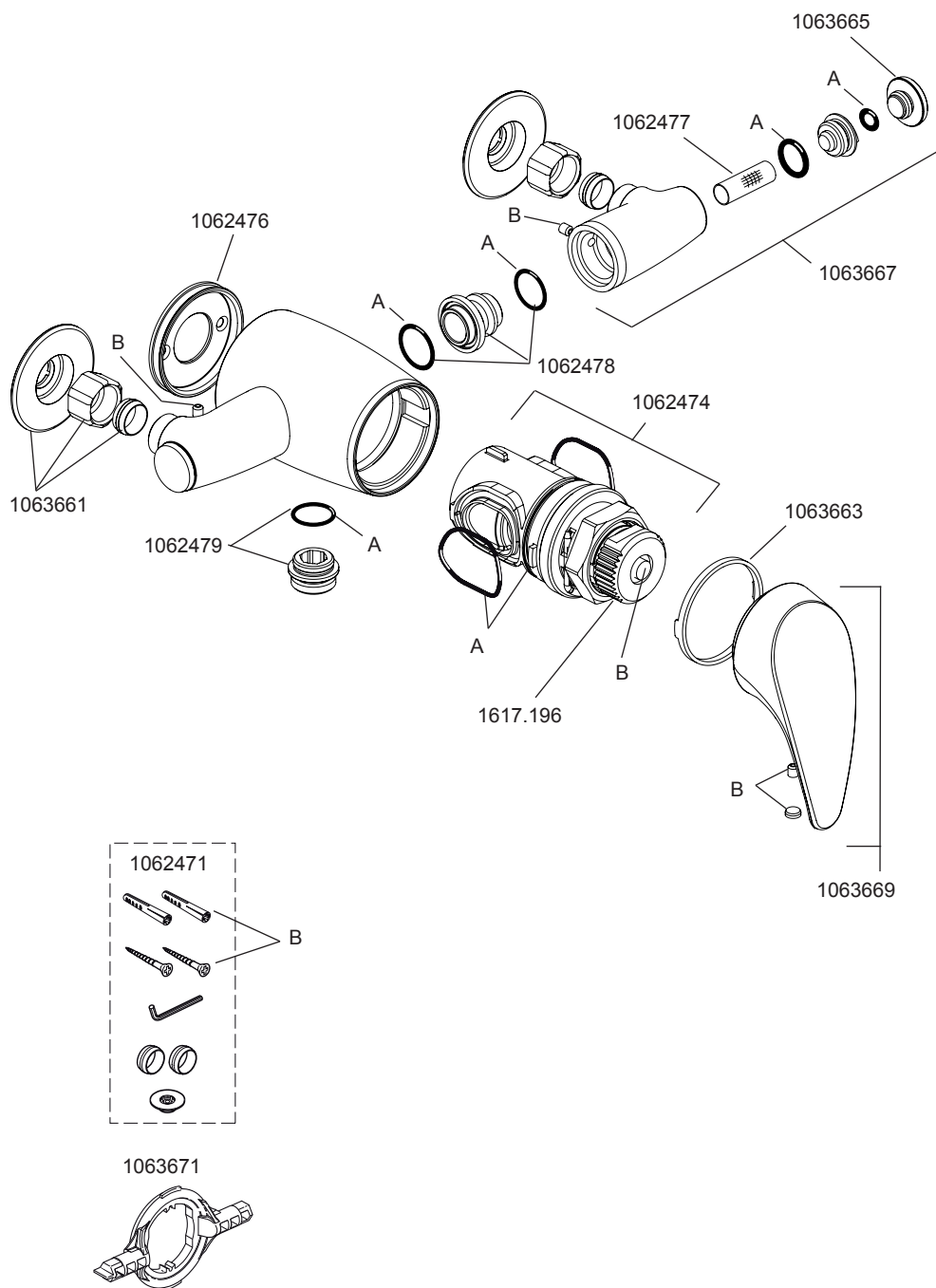
For applications where a Type 2 Valve is required, the supply conditions must comply with the values in the Table below. Note that both hot and cold supply pressures must lie within the same pressure range.

Operating Pressure Range	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Maintained Pressure, Hot and Cold (bar)	1 to 5	0.2 to 1
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	≤ 25	≤ 25

Valves operating outside these conditions cannot be guaranteed to operate as Type 2 Valves.

SPARE PARTS

1062470	Seal Pack (illustrated 'A')
1062471	Component Pack with Flow Regulator
1062474	Cartridge Assembly
1062476	Backplate
1062477	Filter Pack (x 2)
1062478	Inlet Connector
1062479	Outlet Connector
1063660	Screw Pack (illustrated 'B')
1063661	Compression Fitting Kit
1063663	Bearing
1063665	Filter Cap (x 2)
1063667	Elbow Pack
1063669	Handle
1063671	'O'Key
1617.196	Hub Pack



CUSTOMER SERVICE

Guarantee of Quality

Kohler UK guarantee products against any defect of materials or workmanship for the following periods

25 Years

Ceramic Ware and Cast Products

10 Years

Stainless Steel Products and, Acrylic Baths

5 Years

Shower Valves, Taps, Cistern
Fittings, Toilet Seats and Bath
Panels

2 Years

Bathroom Furniture and
Accessories

1 Year

Whirlpool / Spa Baths

Our confidence in the quality and reliability of our superior products enables us to offer a comprehensive guarantee for all products.

To register and fully benefit from this guarantee you must return the enclosed product registration card indicating the Kohler items you have purchased.

Within the guarantee period we will undertake to resolve any material defects, by providing replacement parts, modules or complete product, as we deem appropriate. To be free of charge, work must only be undertaken by Kohler UK approved personnel.

To ensure that any problems can be promptly resolved you must contact Kohler UK directly.

Proof of purchase must be provided with any claims.

This guarantee covers products in domestic use, installed and maintained in accordance with the instructions. It covers the purchaser only and is not transferable.

Commercial / Business Use

Any Kohler Bathroom product used within a commercial / business premise is guaranteed for **1 Year** against any defect of materials or workmanship.

Not Covered by this Guarantee

Damage or defects arising from incorrect installation, improper use or lack of maintenance.

Installed product damaged in transit Consequential loss, damage or product removal and installation costs.

General wear and tear.

This guarantee is in addition to your statutory and other legal rights.

To Contact Us

Kitchen and Bathroom Taps and Accessories

Tel: 0870 240 7896

Fax: 01242 282 595

Email: technical@mirashowers.com

Website: www.kohleruk.com

Showers and Fittings

Tel: 0870 241 0888

Fax: 01242 282 595

Email: technical@mirashowers.com

Website: www.kohleruk.com

All other Kohler Products

Tel: 0870 850 5551

Fax: 0870 850 5552

Email: info@kohleruk.com

Website: www.kohleruk.com

Kohler Mira Ltd
Cromwell Road,
Cheltenham GL52 5EP.

The company reserves the right to alter
product specifications without notice.

KOHLER